

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the amendments and in view of the reasons that follow. Claims 30-46 and 50-55 were previously withdrawn from consideration as a result of the restriction requirement contained in the Office Action of July 13, 2005. The restriction requirement was timely traversed by applicant in a Response to Restriction Requirement filed August 4, 2005. Claims 1 and 47 have been amended. Claim 10 has been canceled without prejudice. Claims 1-9, 11-29, and 47-49 are now pending in this application.

I. **Rejection of Claims 1-4, 7-10, 12-18, and 23-29 under 35 U.S.C. § 102(b)**

On page 2 of the Office Action, claims 1-4, 7-10, 12-18, and 23-29 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,976,900 (Tsutsumi). Applicant respectfully traverses this rejection. First, Applicant respectfully disagrees because Tsutsumi fails to teach at least the limitation “a gas exhaust channel containing the gas at a second pressure, ... wherein the second pressure is lower than the first pressure” as required by claim 1 and argued in the response filed January 13, 2006. Second, Applicant respectfully disagrees because Tsutsumi fails to teach at least the limitation “wherein the gas supply system includes at least one gas cooler adapted to cool the supply of gas at the first pressure” as required by amended claim 1. Claim 1 has been amended to include the limitations of now canceled claim 10.

Claim 1, as amended and with emphasis added through underlining and bolding, recites:

(e) a gas supply system operably coupled to supply the gas at the first pressure to the gas supply tube, and wherein the gas supply system includes at least one gas cooler adapted to cool the supply of gas at the first pressure;

On pages 3-4 of the Office Action dated 3/30/2006, the Examiner states:

With respect to claims 7 - 10, the reference further teaches ..., and wherein the gas supply system includes at least one gas cooler adapted to cool the supply of gas at the first pressure (item 12 – figure 1; lines 29-42).

Applicant respectfully disagrees. Tsutsumi describes:

Two air-passing pipes 11 connected to the openings of both end portions of the stream-passing holes 10 are connected to a stream controller 12 including a stream generator and temperature control.

.... A valve mechanism 15 is connected to the air-passing pipes 11 and 13 thereby enabling adjustment of the flow rate of the stream in the pipes 11 and 13 or opening and closing of the passway.

(Tsutsumi, Col. 2, line 68 – Col. 3, line 16; emphasis added through underlining). Tsutsumi further describes that a “necessary quantity of the stream is gushed onto the metal mold surfaces 1a and 3a via the respective nozzle portions of the stream passing holes 10 and 13.” (Tsutsumi, Col. 3, lines 47-50; emphasis added through underlining). Tsutsumi still further describes:

the apparatus can be operated by detecting such the situation producing a stream with the temperature being elevated above a necessary temperature, or warm to hot wind, in the stream controller 12 either automatically or manually.

(Tsutsumi, Col. 4, lines 32-37). Tsutsumi, however, fails to teach, suggest, or disclose “wherein the gas supply system includes at least one gas cooler adapted to cool the supply of gas at the first pressure” as required by amended claim 1 with emphasis added through underlining and bolding.

As a result, Tsutsumi fails to disclose, suggest, or teach all of the limitations of claim 1. An anticipation rejection cannot properly be maintained where the reference used in the rejection does not disclose all of the recited claim elements. Applicant respectfully traverses any arguments posed by Examiner relative to claims 2-29 as claims 2-29 are allowable for at least the reasons outlined above relative to claim 1. Therefore, Applicant respectfully requests withdrawal of the rejection of claims 1-29.

II. Rejection of Claims 1-16, 23-29, and 47-49 under 35 U.S.C. § 102(e)

On page 7 of the Office Action, claims 1-16, 23-29, and 47-49 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2002/0162940 (Frul et al.). Applicant reserves the right to swear behind Frul et al. Applicant respectfully traverses this rejection. Applicant respectfully disagrees because Frul et al. fails to teach at least the limitation “wherein the gas supply system includes at least one gas cooler adapted to cool the supply of gas at the first pressure” as required by amended claims 1 and 47.

Claim 47, as amended and with emphasis added through underlining and bolding, recites:

- (d) a gas supply system operably coupled to supply the gas at the first pressure to the pipe, and wherein the gas supply system includes at least one gas cooler adapted to cool the supply of gas at the first pressure;

On pages 8-9 of the Office Action dated 3/30/2006, the Examiner states:

With respect to claims 7 - 10, the reference further teaches ..., and wherein the gas supply system includes at least one gas cooler adapted to cool the supply of gas at the first pressure (paragraph 0044).

Applicant respectfully disagrees. Paragraph [0044] of Frul et al. describes:

During operation of the injection mold, a fluid cooling medium, such as high pressure water or air/water mist, preferably from a recirculating chilled water system, is supplied to the feed channels in the bottom plate, and from there to the vertical tubes and the nozzles. The high pressure water is sprayed on the heat-exchange surface, thereby effecting a very efficient high rate of cooling.

Frul et al. further describes that “[f]eed channels 49 supply vertical tubes 46 with high pressure water from an external source.” (Frul et al., paragraph [0041]). Frul et al. still further describes that “the flow of water to the nozzles can be made intermittent, wherein the impingement action is only present during the cooling phases of the injection molding cycle.” (Frul et al., paragraph [0045]). Frul et al., however, fails to teach, suggest, or disclose “wherein the gas supply system

includes at least one gas cooler adapted to cool the supply of gas at the first pressure" as required by amended claims 1 and 47 with emphasis added through underlining and bolding.

As a result, Frul et al. fails to disclose, suggest, or teach all of the limitations of claims 1 and 47. An anticipation rejection cannot properly be maintained where the reference used in the rejection does not disclose all of the recited claim elements. Applicant respectfully traverses any arguments posed by Examiner relative to claims 2-29 and 48-49 as claims 2-29 and 48-49 are allowable for at least the reasons outlined above relative to claims 1 and 47. Therefore, Applicant respectfully requests withdrawal of the rejection of claims 1-29 and 47-49.

III. Rejection of Claims 17-22 under 35 U.S.C. § 103(a)

On page 12 of the Office Action, claims 17-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Frul et al. in view of U.S. Patent No. 5,460,761 (Larsson). Applicant respectfully traverses this rejection because the Examiner has failed to present a prima facie case of obviousness. At a minimum, the Examiner has failed to demonstrate that Tsutsumi and Larsson, alone or in combination, disclose, teach, or suggest all of the claim limitations as recited in claims 17-22.

As discussed in Section II. above, Frul et al. fails to teach at least the limitation "wherein the gas supply system includes at least one gas cooler adapted to cool the supply of gas at the first pressure" as required by claim 1. Larsson also fails to teach at least the limitation "wherein the gas supply system includes at least one gas cooler adapted to cool the supply of gas at the first pressure" as required by claim 1.

Larsson describes:

A container 17 with liquid carbon dioxide is connected to the capillary tubes 6, 8. The supply of gas can be regulated by hand valves 18. Gaseous state cooling gas, air and/or gases formed at the moulding of the plastic can be evacuated via pipes 19 and hand valves 20.

The addition of liquid state cooling gas, evacuation of gaseous state cooling gas and gases possibly formed from the polymer as well as the opening and the closing of the moulding tool etc can be directed by means of a control unit 21.

(Larsson, Col. 5, lines 57-66; emphasis added through underlining). Larsson further describes that the “amount of cooling gas needed for keeping the desired low temperature was regulated by means of the control unit 21 in cooperation with the thermoelement.” (Larsson, Col. 6, lines 41-43; emphasis added through underlining). Larsson, however, fails to teach, suggest, or disclose “wherein the gas supply system includes at least one gas cooler adapted to cool the supply of gas at the first pressure” as required by amended claim 1 with emphasis added through underlining and bolding.

As a result, neither Frul et al. nor Larsson disclose, suggest, or teach all of the limitations of claim 1. An obviousness rejection cannot be properly maintained where the references used in the rejection do not disclose all of the recited claim elements. Therefore, Applicant respectfully requests withdrawal of the rejection of claims 17-22 which depend from claim 1.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-2350. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-2350. If any extensions of time are needed for timely acceptance of papers

submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-2350.

Respectfully submitted,

By 

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